Honeywell

Phillip C. Sparks
Sr. Environmental Engineer

Honeywell Resins & Chemicals
Hopewell Plant
905 East Randolph Street
Hopewell, VA 23860
Phone: 804-541-5119
Email: phillip.sparks@honeywell.com

January 29, 2016

Dennis M. Abraham
U.S. Environmental Protection Agency
Region III (3RC10)
1650 Arch Street
Philadelphia, PA 19103
Abraham.Dennis@epa.gov

Kristen Hall
U.S. Environmental Protection Agency
Region III (3AP20)
1650 Arch Street
Philadelphia, PA 19103
Hall.Kristen@epamail.epa.gov

Kyle I. Winter
Deputy Regional Director
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060
Kyle.Winter@deq.virginia.gov

Jefferson Reynolds
Enforcement Division Director
Virginia Department of Environmental Quality
629 East Main Street
Richmond, VA 23218
Jefferson.Reynolds@deq.virginia.gov

Re: DOJ No. 90-5-2-1-09611 – Semi-annual Report for July 1, 2015 through December 31, 2015

To Whom It May Concern:

Honeywell Resins & Chemicals LLC ("Honeywell") is making this submittal pursuant to the Consent Decree in United States of America and Commonwealth of Virginia v. Honeywell Resins &Chemicals LLC ("consent decree"), the reference for which is Civil Action Number: 3:13-cv-00193-REP, and DOJ Case Number: 90-5-2-1-09611.

Paragraph 49 of the consent decree directs Honeywell to submit a semi-annual report with a status of compliance measures identified in Sections V – XIII of the consent decree. Attachment A contains the semi-annual consent decree report.

If you have questions or need additional information, please contact me at (804) 541-5119.

Regards,

Phillip C. Sparks
Sr. Environmental Engineer

DOCUMENT CERTIFICATION

Facility Name: Honeywell Resins & Chemicals LLC

Facility Location: 905 East Randolph Road, Hopewell, VA 23860

Type of Submittal Attached: Consent Decree Semi-annual Report for July 1, 2015 through December 31, 2015

Consent Decree Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Authorized Official: *Frederick P. Harry*

Title: *Site Manager*

Signature:  **Date:** January 29, 2016

DISTRIBUTION

N. Johnson
T. Knauer
T. Love
J. Sheridan
F. Harry
T. Varner
J. Reinhardt (VADEQ)

Attachment A

Semi-annual Report for July 1, 2015 through December 31, 2015

1. Status of Compliance with Sections V – XIII

Provision	Status
Section V – Area 9 NOx Emission Reductions, Control and Testing	
12. Installation and Operation of first set of NOx Emission Controls (B-Train)	Installation is complete. System is in continuous operation.
13. Installation and Operation of second set of NOx Emission Controls (C-Train)	Installation is complete. System is in continuous operation.
14. Installation and Operation of third set of NOx Emission Controls (A-Train)	Construction began in April 2015 on the A-Train SCR system. Due 12/31/2016 (installation), 6/30/2017 (operation).
15. Installation and Operation of fourth set of NOx Emission Controls (E-Train)	Project is in the capital forecast. Due 12/31/2018 (installation), 6/30/2019 (operation).
16. Continuous operation of SCRs, within prescribed limits and methods	For installed NOx Emission Controls (B, C-Trains), the site has operated the systems within the requirements of the consent decree. See Section 5 of this Attachment for a description of non-compliance with the consent decree during the reporting period.
17. Conduct initial performance test on SCRs and report results	For installed SCRs (B, C-Trains), the site has conducted and submitted performance results.
Section VI – Area 9 CEMS Installation and Operation	
18. Replace the existing EMCAMS with the installation / operation of NOx CEMs as installed	The site has replaced EMCAMS where it has installed CEMS (B, C-Trains).
19. Install, certify, calibrate, maintain and operate NOx CEMs for B-Train	Installation is complete. System is in continuous operation.
19. Install, certify, calibrate, maintain and operate NOx CEMs for C-Train	Installation is complete. System is in continuous operation.
19. Install, certify, calibrate, maintain and operate NOx CEMs for A-Train	Project design is in progress. Due 6/30/2017.
19. Install, certify, calibrate, maintain and operate NOx CEMs for E-Train	Project is in the capital forecast. Due 6/30/2019.
20. Conduct Relative Accuracy Test Audits (RATAs) and Compressed Gas Audits (CGAs)	For installed CEMS, the site has conducted and submitted RATAs and quarterly CGAs.
Section VII – Area 9 PM and Opacity Testing and Monitoring	
21. Conduct particulate matter and opacity performance testing and submit testing report	PM testing was completed on the A, B, C, D and E-Trains by the 7/18/2015 due date and the final reports were submitted. See Section 5 of this Attachment for a description of non-compliance with the consent decree during the reporting period.

Section VIII – Enhanced Leak Detection and Repair	
22. Implement and comply with the enhanced leak detection and repair plan (ELP)	The site has implemented the enhanced leak detection and repair plan. See Section 5 of this Attachment for a description of non-compliance with the ELP during the reporting period.
Section IX – Benzene Waste NESHAP Audit	
23. Complete consent decree measures for BWON audit	The site has completed the BWON audit requirements of Section IX.
24. Submit audit statement of work	Statement of work was submitted and approved.
25. Enter into contract with third party to conduct BWON audit	Under a contract established with Sage Environmental Consulting, the site had the BWON audit completed.
26. Submit third party audit report	The site submitted the BWON audit report to the VADEQ and EPA.
27. Actions if site's TAB is over 10 Mg/yr	The BWON audit determined the site's TAB to be well less than 10 Mg/yr.
Section X – Miscellaneous Operations and Maintenance Measures	
28. Submit control and monitoring device preventative maintenance and operations plan, review it annually and update as needed.	Plan was submitted and approved in 2013, and last updated in December 2015.
29. Air pollution control practices	Site is implementing good air pollution control practices per the consent decree.
30. Tracking periods of non-operation	Site is keeping written records of startups, shutdowns, malfunctions, non-operation, bypasses per the consent decree.
Section XI – Permits	
31. Incorporate consent decree into new source review and Title V permits	An NSR permit has been issued to the site to incorporate the requirements of this consent decree. The Virginia Department of Environmental Quality reissued the Title V permit in October 2014, incorporating the requirements of the consent decree.
32. Obtain required permits	The site obtained a new source review permit requiring the installation of SCRs on A, B, C, and E Trains. The site also received its new Title V Permit in October 2014.
Section XII – Prohibition of Netting Credits or Offsets from Required Controls	
33. Summary	The site is compliant with the general netting prohibition provisions of the consent decree.
34. General netting prohibition	
35. Exception to general netting prohibition	
36. Outside the scope of the general netting prohibition	

Section XIII – Environmental Mitigation	
37. Operate only Tier III (or equivalent) diesel switcher locomotives	The site is operating only Tier III diesel switcher locomotives.
38. Offset credit prohibition	The site has not sought to obtain netting credits for the purchase and use of the Tier III locomotives.
39. Certification	The site submitted the diesel switcher certification required by the consent decree.

2. Description of Problems Encountered or Anticipated

The site has not encountered or anticipated any problems meeting the requirements of the consent decree.

3. Status of Permit Applications or Modifications

See above description in Section 31.

4. Description of Changes Not Authorized by Permit or Regulation

None

5. Description of Non-compliance with Consent Decree

TW-8 SCR 95% Control Efficiency (Paragraph 16)

On October 28, 2015, the B-Train nitrite tower (TW-8) experienced a process upset which reduced the amount of NO_X generated from the process. At approximately 5:45 PM the inlet NO_X concentration dropped from the normal range of greater than 2,000 ppm down to less than 300 ppm. Adjustments were made to the process and at approximately 8:15 PM the inlet NO_X concentration returned to normal levels. During this period of low NO_X generation, the hourly average NO_X removal efficiency dropped below 95% for the 18 Hour which caused the 3-hour rolling average to drop below 95% for the 18, 19 and 20 Hours. This drop in NO_X removal efficiency was attributed to the dramatic decrease in the inlet loading which impacted the ability of the SCR to meet the 95% removal efficiency. The SCR continued to operate as designed and the hourly NO_X emissions were maintained within the permitted limits during this process upset.

Honeywell has evaluated the process controller interlocks for the SCR system and identified an error in the calculation of the rolling 3-hour NO_X removal efficiency. This calculation was modified to better match our compliance monitoring system calculation so the interlock will shut the process down under these conditions in the future.

Opacity Testing (Paragraph 21)

In June and July of 2015, Honeywell conducted the required PM testing on the towers on the A, B, D and E-Trains in operating Area 9 in accordance with Paragraph 21 of the Consent Decree. However, opacity monitoring was inadvertently omitted from the test protocol and was not conducted during the PM testing events. Therefore Honeywell did not conduct opacity testing on Towers TW-2, TW-8, TW-22, TW-23, TW-62, TW-9, TW-32, and TW-33 within twenty-four (24) months of the effective date of the Consent Decree.

Honeywell discovered that the opacity testing was not conducted during the review of the draft PM test reports received from the stack testing company. Upon discovery, a stack testing protocol was submitted on September 11, 2015 for conducting the opacity testing and it was promptly approved by the VADEQ. The opacity testing was completed on September 14th and 15th and the results were submitted on October 21, 2015. All results indicated compliance with the opacity limits. Honeywell presented this finding and corrective actions to EPA and DEQ in a meeting at the EPA Region 3 offices on October 7, 2015.

TW-23 PM and PM_{10} Hourly Emission Limits (Paragraph 21)

Particulate Matter (PM) and PM_{10} emission testing was conducted on the disulfonate section of the Area 9 D-Train (TW-23) on June 12, 2015 in accordance with Paragraph 21 of the Consent Decree. The results of the stack test exceeded the TW-23 pounds per hour emission limits for both PM and PM_{10} in Paragraph 21 of the Consent Decree. The particulate emission controls appeared to be operating normally during the testing.

Honeywell conducted an investigation, including an internal inspection of the mist eliminator to determine the cause of the elevated particulate measurements. The inspection found plugging in the spray cleaning system and a nozzle was found missing. Additionally, the candle material was brittle and holes had developed in the candles which would allow unfiltered air to pass through to the stack. The candles had last been replaced in June of 2014 and they are on a 3 year replacement cycle. The investigation concluded that the issues with the spray system caused the candles to dry and created a higher potential for chemical attack to the polyester material of the candles which then resulted in the holes. A secondary issue was found where the differential pressure gauge on the mist eliminator had flooded, impacting the ability of the device to detect the change in pressure associated with the holes in the candles.

Before putting the unit in service after the inspection, Honeywell repaired the spray system on the mist eliminator, and replaced the damaged candles. The candle vendor was also contacted to ensure the correct materials of construction were being used in the candles and there were no quality issues with the candles. Honeywell also installed a new differential pressure measuring device in the mist eliminator which eliminated the potential for the device to flood.

Honeywell presented this finding and corrective actions to EPA and DEQ in a meeting at the EPA Region 3 offices on October 7, 2015. A stack test was then conducted on October 9, 2015 to confirm that the repairs were successful. The stack test results indicated compliance with the PM and PM_{10} hourly emission limits and the results of the test were submitted on December 4, 2015.

PM Performance Testing Reports (Paragraph 21)

For the PM and PM10 performance tests conducted on TW-2, TW-8, TW-9, TW-23, TW-33 and TW-62, the emission testing reports were submitted later than 60 days after the completion of the emission test. In these cases, the draft stack test results were not received from the contractor until 58 to 63 days after the test completion. Additionally, the Honeywell compliance report tracking system grouped all of the testing events together and did not provide the granularity needed to track the 60 day report deadline for each test. These issues, combined with managing the significant number of tests required as part of this event, resulted in the late report submittals.

Honeywell submitted the reports electronically as soon as they were available. A new stack test report tracking tool has been developed to track the due dates of test reports and is reviewed weekly. Additionally, future stack testing proposals will include a requirement for a draft report to be generated

by the test company within 30 days of completion of the test and draft report submittal from the contractor will also be tracked on the stack test report tracking tool.

Enhanced LDAR Program – Valve Improvement Program (Appendix A, Paragraph 19)

During the second half of 2015, Honeywell completed its investigation to identify potential maintenance and capital projects where Certified Low Leak Technology (CLLT) valves were involved. The investigation included the following tasks:

- Reviewing over 1,800 work orders completed for both routine maintenance and outage work;
- Reviewing the maintenance outage task lists in each LDAR area to ensure that the work order review comprehensively addressed all maintenance and outages;
- Conducting a detailed review of 12 capital projects implemented in LDAR areas;
- Conducting a detailed review of 25 piping and instrumentation diagrams associated with capital project changes;
- Interviewing capital project managers to ensure that the capital project review was comprehensive;
- Interviewing a total of 9 operations and maintenance personnel in the LDAR operating areas to ensure that no tasks were omitted from the investigation detailed above.

From that investigation, 56 valves were identified that either did not contain CLLT, or the CLLT status could not be confirmed. After completing the investigation, Honeywell submitted a summary report to EPA on September 11, 2015 detailing the results of the investigation and the corrective and preventative actions taken. Additionally, Honeywell presented these findings to EPA and DEQ in a meeting at the EPA Region 3 offices on October 7, 2015.

Of the total of 56 valves disclosed in the second half of 2015 :

- All valves were monitored and no leaks were found,
- 7 valves were upgraded to CLLT while the process was operating (shutdown not required),
- 41 valves were torqued to confirm they meet CLLT (shutdown not required), and
- 8 valves were upgraded to CLLT during process unit shutdowns.

All 56 valves were restored to CLLT by November 3, 2015.

The preventative measures Honeywell has taken as the result of these findings include:

- Reviewed LDAR valve needs and obtained the CLLT documentation for valve replacements,
- Developed an approved CLLT valve list,
- Enhanced the storeroom inventory of CLLT valves and suppliers stock of CLLT valves,
- Required new CLLT valves to have CLLT tags affixed to the valve,
- Conducted training (maintenance, operations, project, LDAR contractor and procurement), and
- Upgraded valve data in LeakDAS to ensure we have a suitable replacement for the 4,200 valves currently in service.

Enhanced LDAR Program – Management of Change (Appendix A, Paragraph 24)

A capital project was implemented to replace condenser 96 in Area 6. Four valves associated with this capital project were not tagged in the field or included in the LDAR monitoring program. These component tags have been added into the database and monitored components. None were found to be leaking.

This capital project was managed under the facility management of change (MOC) process. Both the request for change documentation and the pre-startup review expressly identified the project as applicable to the LDAR program. Nonetheless, four of the valves in this project were not field tagged and monitored.

Honeywell has performed a detailed review of the MOC process to understand why the valves were not tagged and how to ensure that all valves are tagged in the future. Based on this review, we have determined additional tracking is needed to identify the specific LDAR tasks required for each change and to track these tasks through completion. Honeywell has modified the LDAR MOC procedure to incorporate this additional review into the initial change assessment and in the pre-startup review to provide additional detail.

Honeywell presented this finding and corrective actions to EPA and DEQ in a meeting at the EPA Region 3 offices on October 7, 2015.

Enhanced LDAR Program – Valve Monitoring Frequency (Appendix A, Paragraph 4)

During the 3rd quarter internal LDAR audit, two (2) valves were identified that were not being monitored at the required frequency. The database records for these two (2) valves indicate a change in April of 2014 to classify them as insulated and exempt from monitoring. The software had not scheduled these valves for monitoring after this change. A physical inspection of these valves revealed the valve leak interfaces are accessible for monitoring. Both valves have since been monitored and are not leaking. The database has been corrected to show these valves are not exempt from monitoring and they are now being scheduled for quarterly monitoring.

Honeywell presented this finding and corrective actions to EPA and DEQ in a meeting at the EPA Region 3 offices on October 7, 2015.